



Operating Manual

bluepoint 4 ecocure

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1 Introduction

This user's manual introduces you to the bluepoint 4 ecocure, explains how to operate it and the range of possible applications.

It contains safety information and information on danger points to ensure safe and correct operation of the bluepoint 4 ecocure.

The following terms and symbols are used in this manual:



Danger

This symbol indicates **immediate danger** threatening the life and health of personnel!



Warning

This symbol indicates **possible danger** threatening the life and health of personnel.



Caution

This symbol indicates a **potentially dangerous** situation.



Note

This symbol indicates notes, tips for application and other useful information.

2 Description

The Sujet is a high-intensity ultra-violet spot lamp for exposing small objects to very high-intensity radiation.

The Sujet consists of an operating unit with a UV lamp and a light guide.

The use of a flexible light guide means that the radiation is routed to the object to be exposed practically without loss.

Transmitting the radiation via light guide means that the equipment is suitable for applications at points where access is difficult.

A built-in time switch allows you to set a precise and constantly reproducible radiation dose.

Areas of application

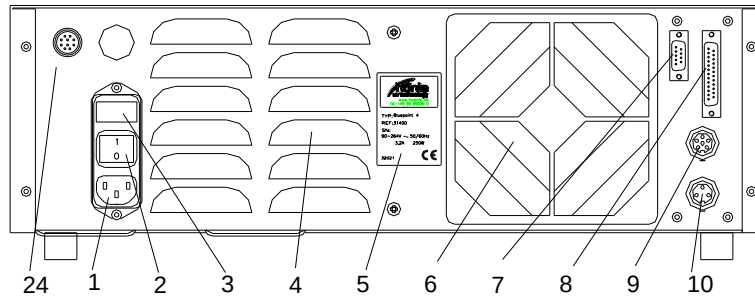
Areas of application

The bluepoint 4 ecocure is used in laboratories, in manufacturing and repair processes for the following applications:

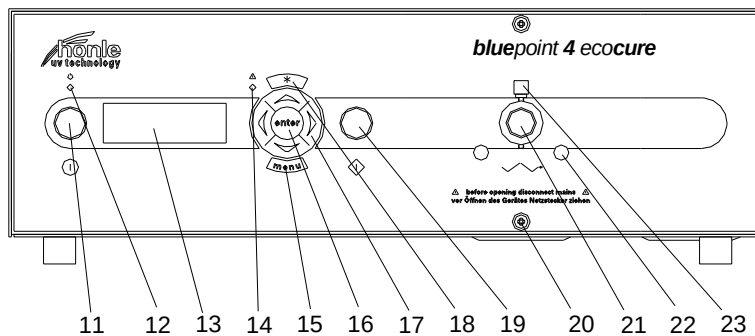
- Rapid precision hardening of UV adhesives and plastics
- Bonding and casting electrical and electronic components
- Bonding glass, metal and plastics
- High-intensity radiation for the chemical, biological and pharmaceutical industry
- Bonding glass fibres.

Individual parts and operating elements

Individual parts
and operating
elements



bluepoint 4 ecocure, rear view



bluepoint 4 ecocure, front view

1 Mains socket_IEC	13 Display
2 Main switch	14 Status-LED
3 Fuses (2 x 4Amp inert)	15 Menu key
4 Ventilation apertures, waste air	16 Enter key
5 Rating plate	17 Arrow keys (Cursor)
6 Air filter (intake aperture, fan)	18 Asterisk key
7 RS 232 – interface SUB-D 9	19 Shutter switch
8 PLC-interface SUB-D 25 ¹⁾	20 Screw connection, slide-in lamp unit
9 6-pin socket, foot-operated switch	21 Socket for light guide
10 3-pin socket alternating contact	22 Lamp adjuster
11 Switch “Lamp on/off”	23 Setscrew, light guide
12 Stand-By LED	24 Socket, dosage valve (optional) ¹⁾

¹⁾ Operating elements 8 and 24 have no function assigned to them in model “ecocure”.

3 Safety instructions

General information

General information

A sound knowledge of all basic safety regulations is essential to ensure safe and fault-free operation of the Sujet.
This user's manual contains all important safety regulations to ensure safe operation of the equipment.
This user's manual, and in particular the safety instructions, must be observed by all persons working with the equipment.

In addition, all relevant rules and accident prevention regulations relating to the operation site must be observed.
At regular intervals, the operator will check that all personnel are observing the safety regulations.

Under the **Health and Safety Management at Work Regulations 1999**, users are required to carry out a suitable and sufficient assessment of the risks created by the use of the bluepoint 4 ecocure. They must ensure adequate control measures are in place to minimise or eliminate any of the risks created. The information contained within this operating manual will assist in creating your own risk assessment.

Staff obligation

Staff obligation

Before commencing work, all persons working with the bluepoint 4 ecocure undertake the following:

- to observe the safety at work and accident prevention regulations.
- to read the chapter on safety and the warnings printed in this manual and to observe them at all times while using the equipment.

Danger when using the equipment

Danger when using the equipment

The bluepoint 4 ecocure has been manufactured in accordance with the very latest state-of-the-art technology and the recognized rules of safety technology.

The equipment is to be operated only under the following conditions:

- Personal Protective Equipment (PPE) is worn to protect eyes and skin.
- for the purpose for which it was constructed
- in a condition in which it complies with all the requirements of safety technology.



Danger

In the event of improper use, there is a danger to the health of the user or third parties (serious skin or eye damage)!
In such a case, there may also be damage to the equipment or other material damage.



Note

This sign appears next to information on faults that may represent safety hazards.

Appropriate use

The Sujet is a high-intensity ultra-violet spot-lamp (UV) for exposing small surfaces to radiation.

Any other use or use above and beyond these terms is defined as inappropriate and thus dangerous.

Any other use or use above and beyond these terms is defined as inappropriate and thus dangerous.

The bluepoint 4 ecocure must not be used for tanning the skin. The high intensity UV would cause burning and may lead to premature skin ageing or skin cancer.

The operator may only operate the equipment if all the operating instructions in this manual are observed.

The operator is under obligation to ensure that the prescribed inspection, cleaning and servicing work is carried out and that worn parts are always replaced immediately as indicated.

There are International and UK guidelines for restriction of occupational UV exposures.

Useful references:

ICNIRP Guidelines on limiting exposure

(www.icnirp.de)

NRPB Advice on protection (www.nrpb.org)

The following are also regarded as necessary for appropriate use of the equipment:

- the observance of all notes in this user's manual
- the execution of all prescribed inspection, maintenance and servicing work
- the observance of the general and specific safety instructions in this user's manual
- compliance with the relevant accident prevention regulations.

Appropriate use



Note

The Dr. Hönle AG is not liable for damage resulting from inappropriate use of the equipment.

Warranty and liability

The "General sales and delivery conditions" of the Dr. Hönle AG apply. The operator will have received these terms, at the latest upon the closing of the contract. The Dr. Hönle AG is not liable for any damage to persons or property arising from any one or more of the following:

- inappropriate use of the Sujet,
- incorrect assembly, commissioning, operation and servicing of the Sujet,
- operation of the Sujet with faulty and/or non-functioning safety devices or protective devices,

- non-observance of the instructions given in the user's manual with reference to the safety, transport, storage, assembly, commissioning, operation, servicing and maintenance of the device,
- unauthorized alterations to the construction of the Sujet,
- negligent monitoring of equipment parts subject to wear,
- repairs which are carried out incorrectly
- catastrophes, the action of foreign bodies or acts of God.

Warranty and liability

4 Safety instructions

Organizational measures

Organizational measures

All safety devices on the equipment must be tested for correct functioning each time prior to carrying out any work and also at each shift change. Look for external signs of damage and check that the safety devices are fully functional.

Informal safety measures

Informal safety measures

In addition to this user's manual, the generally and locally applicable accident prevention and environmental protection regulations must be made available and observed.

Danger caused by electricity

Danger caused by electricity

The electrical equipment of the Sujet must be inspected regularly.

The following must be inspected before commencing work:

- check all equipment components for external signs of damage
 - check that all electrical cables are in perfect working order.
- Loose connections must be tightened and damaged cables replaced immediately.



Danger

There is danger caused by direct or indirect contact with electricity!

Thermal hazards

Thermal hazards

The following precautions must be taken when operating the bluepoint 4 ecocure:

- Never touch the end of the light guide.



Danger

High-intensity, bundled radiation is emitted from the end of the light guide. There is acute danger of ignition and burns!

- When working within the radiation field, always wear protective clothing and UV goggles.
- The end of the light guide must be kept at least 1m away from flammable objects.
- **Do not operate the UV lamp in explosion-protected areas.**



Danger

Due to the high temperature of the UV lamp (1000 °C), use of the equipment in explosion-protected areas is forbidden. Acute danger of explosion!

- The equipment must never under any circumstances be operated in the vicinity of flammable or explosive substances, gases or liquids. There is acute danger of fire and explosion due to the high intensity radiation emitted by the equipment and the high lamp temperature. The lamp may still be hot enough to start a fire or trigger an explosion even several minutes after it has been switched off.
- Allow the equipment to cool sufficiently before opening it to replace the lamp or for other servicing work. The bluepoint 4 ecocure requires a cooling-off period of at least 10 minutes with the fan switched on. If the equipment is left to cool without the fan (at an ambient temperature of 20 °C) a period of at least 30 minutes is required.



Danger

Acute danger of burns due to the high temperature of the UV lamp!

*Danger caused
by radiation*

Danger caused by radiation

In addition to UVA radiation, the radiation source of the bluepoint 4 ecocure also emits short-wave UV radiation (UVC and UVB).



Danger

Never look directly into the light guide. Danger of blinding!

If not handled correctly, UV radiation can cause damage to the skin and eyes. It can cause severe sunburn, inflammation of the retina and conjunctiva.

Follow these instructions when operating the equipment:

- **Personal Protective Equipment must be worn to protect eyes and skin.**
 - Protective goggles for the eyes should be to standard BS EN 170 especially Ultra-violet Filter Scale No 2-1.2 maximum spectral transmittance (313nm) 0.0003% (365nm) 0.3% model type should be for direct and peripheral exposure (side shielding).
 - Gloves to protect hands should have a Clothing Protection Factor (CPF) of 30+ this is equivalent to the sun protection factor quoted for sunscreens. Marigold® Industrial have several blue nitrile glove types that score "very high" 30+ on the CPF index.
 - Never look directly into the light guide.
 - Always set up the lamp in such a way that no-one is exposed to direct radiation. Shielding can be created using UV absorbing plastics or metals.
-



Caution

UV radiation can cause material damage to electronic components. When using EPROMS in the vicinity of the bluepoint 4 ecocure, protect them against UV radiation.



Caution

UV radiation causes materials to age prematurely. Protect UV-sensitive objects and surfaces against radiation.



Note

Protective articles are listed in the chapter "Order data for equipment, spare parts and accessories", page 41.

Danger caused by gases

Some materials under certain conditions can release fumes when irradiated with the blue-point 4 ecocure.

- Observe the safety data sheets for the materials to be exposed to radiation.
- Assess the risks created by work involving such substances and establish measures to meet control regulations.
- Refer to the **Control of Substances Hazardous to Health Regulations 1999 (COSHH)**
- Where necessary, wear a breathing mask and ensure that the area is adequately ventilated and the vapours extracted.
- Before starting operation, test the air in the workroom. If the contamination of the air is too high, a ventilation and extraction unit must be installed.
- Commonly used UV curing adhesives do not release fumes with exposure to blue-point 4 ecocure.
- UV radiation increases the production of ozone. Adequate ventilation is therefore necessary.

Danger caused by gases



Danger

The lamp contains mercury!

Mercury vapour will be emitted if the lamp breaks while it is hot or during operation.

In such an event, personnel must leave the room immediately and the room must be adequately ventilated.

Subsequently, a competent person must collect the mercury residue using a suitable binding agent and dispose of appropriately.

Binding agent: Powdered copper or zinc or Protectasan

Firma Frankenbach, D-61462 Königstein / Taunus

Tel.: ++49 (0)6174 / 3993

Servicing, maintenance and remedying faults

All necessary maintenance work is described in chapter "Servicing, maintenance and cleaning", page 33. These tasks are necessary to ensure fault-free operation.

In the event of a fault in the operation of the bluepoint 4 ecocure, chapter "Faults", page 43 offers information on the causes of faults and advice on how to remedy them.

In the unlikely event of a fault occurring which cannot be remedied with the help of the fault list, contact the customer service department of the Dr. Höhle AG.

Any components that are not in perfect condition must be replaced immediately.

Only use original spare and wear parts.

Other parts may not be adequate for the application or constructed to the same high safety standards.

No changes may be made to the Sujet, no fittings may be added or conversions carried out without obtaining the prior permission of the Dr. Höhle AG.

Contact address for claims under warranty, repair and spare parts service:

Dr. Höhle AG

UV-Technologie

Lochhamer Schlag 1

D-82166 Gräfelfing / München

Tel.: +49 (0)89 / 856 08-0

Fax: +49 (0)89 / 856 08-148

E-mail: uv@hoenle.com

WebSite: www.hoenle.de

Servicing, maintenance and remedying faults



Warning

No repairs or changes may be made to the equipment other than those listed in this user's manual.

5 Transport, storage, delivery

*Delivery
volume*

Delivery volume of the bluepoint 4 ecocure:

- bluepoint 4 ecocure unit
- Mains cable
- UV goggles
- Hexagon tool 2.5
- User's manual
- UV lamp
- 3-pin plug
- Light guide (optional) depending on order

Check that all parts have been delivered and that they are in good order.
Document any damage at once and report it immediately to your dealer or contact the Dr. Hönle AG directly.

Lamp

The lamp must be removed for dispatch and stored in its transport packaging! Use the original packing!



Note

Dispose of any packaging material in an environment-friendly manner or re-use it! We would particularly recommend you to keep the packing material if you intend to mail the device or otherwise transport it.

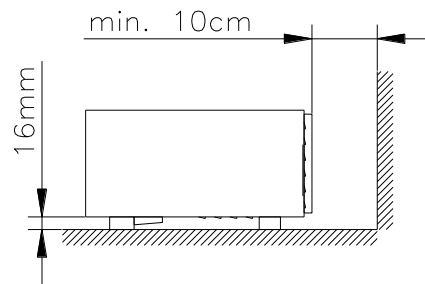
6 Commissioning, operation and readiness for operation

General information

General information

- Ensure that the Sujet is horizontal during operation.
- Do not set the unit up with its back directly against a wall or any other object. The unit must be placed with a gap of at least 10 cm between it and walls/other objects. The gap the equipment feet create between the surface on which the equipment is placed and the bottom of the equipment must be maintained. Warm outgoing air is emitted from the floor and the back of the unit. Adequate ventilation must be provided. Ambient temperature max. 35 °C
- Never fold or squash the flexible light guide. It should never be bent to a diameter of less than 25 cm.
- Do not remove the cap on the notched end of the light guide until immediately before connecting it up to the bluepoint 4 ecocure.
- Do not remove the cap on the radiation output end of the light guide until immediately before commencing work.
- Keep the caps in a safe place and put them back on when the equipment is not in use.

Before switching on, check that the ventilation apertures are unobstructed and free of foreign bodies.



Danger

When installing the bluepoint 4 ecocure, ensure sufficient cooling. If the cooling is not adequate, there is acute danger of fire!

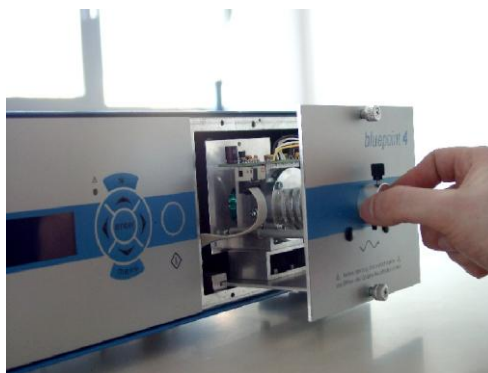
Neither the ambient temperature nor the cooling air temperature may exceed 35 °C.

- Shield the equipment from chemical vapours.
- Only operate the bluepoint 4 ecocure in dry rooms. Max. rel. air humidity 70%.



Warning

Disconnect the mains plug before opening the slide-in lamp unit!



- Undo the screw connection of the slide-in lamp unit (20).
- Slowly pull out slide-in lamp unit approx. 9 cm.

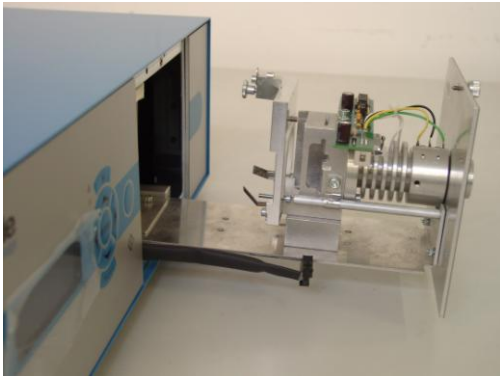


Note

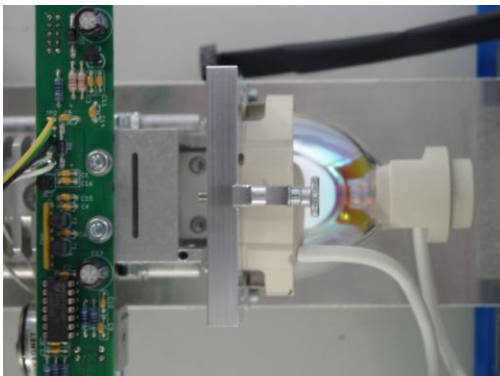
The optical filters and shutters available as accessories can now be fitted in. (For a description: see chapter "Optical filters (Accessories)", page 19 und chapter "Shutters (Accessories)", page 20).



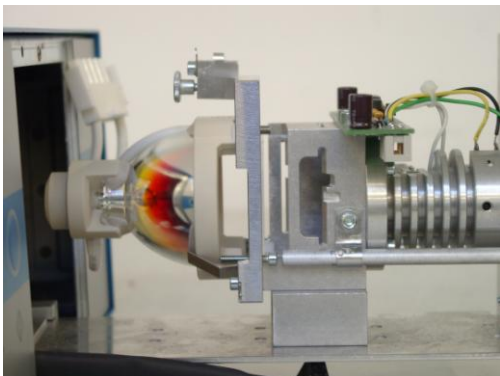
- Detach ribbon cable.



- Slide lamp unit out fully.
- Undo knurled screw.
- Turn lamp clip upwards 180°, engage and secure it with the knurled screw.



- Fit the lamp from above as shown.

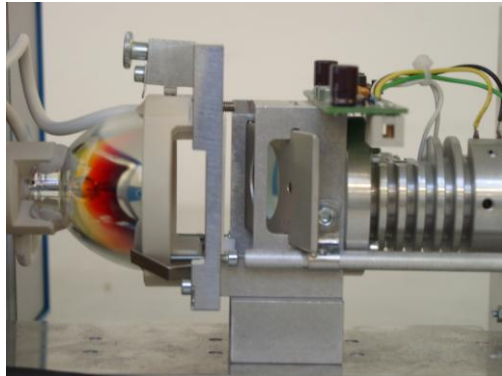


- Side view on lamp.

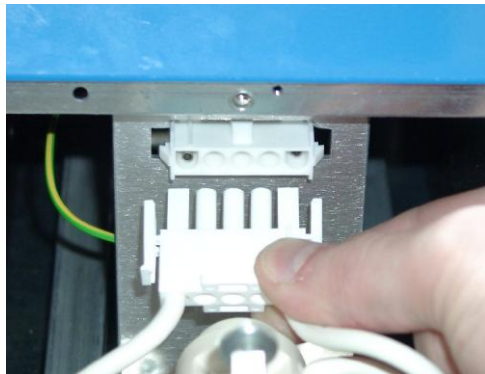


Caution

- The upper positioning screw fits into the upper slot of the lamp socket
- The reflector collar must rest on the 2 adjusting screws at the bottom.



- Turn lamp clip 180°, engage it and secure with the knurled screw.



- Insert 5-pole lamp plug until the side sections engage.



Note

The plug can only be inserted with the flat contact sides (see outside contacts) pointing upwards.



- Slide lamp unit in until it is extended approx. 9 cm.
- Plug in ribbon cable.
- Slide lamp unit in fully.
- Fully tighten the screw connection of the lamp unit (20) by hand.

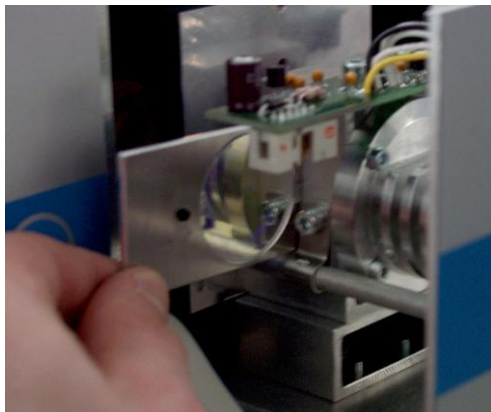
Optical filters (Accessories)

Optical filters (Accessories)

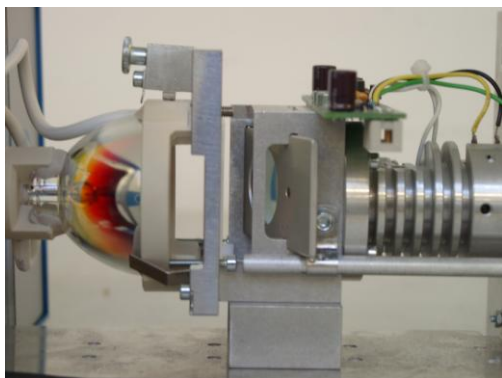
To reduce the thermal load on the objects to be exposed to radiation, we recommend that you fit optical filters, which are available as accessories of the bluepoint 4 ecocure. The following filters can be supplied:

Article No.	Description	Radiation permeability range
32203	Filter BP4 320-500nm compl.	320 – 500 nm (UVA + short-wave visible radiation)
32204	Filter BP4 320-390nm compl.	320 – 390 nm (UVA radiation)
32205	Filter BP4 390-500nm compl.	390 – 500 nm (short-wave visible radiation)

Fitting a filter



- Slide lamp unit out approx. 9 cm.
- Fully insert filter aslant into filter holder from the left.
- The labelling on the filter (e.g. 320-500 nm) must point forwards.



- Slide lamp unit in fully again.

Shutters (Accessories)

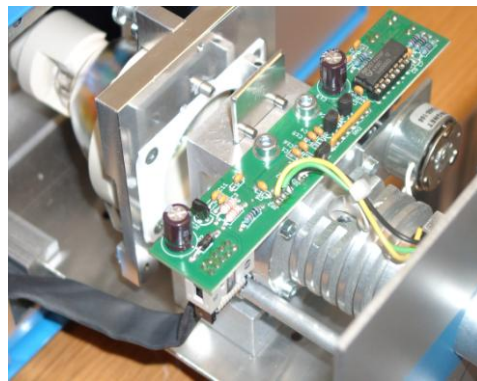
Shutters (Accessories)

The optional shutters available as accessories provide a further means of reducing the radiation intensity, in addition to the electronic control (60 – 100 % of the nominal power). The bluepoint 4 ecocure shutter set consists of three shutters. (Article-No. 36965, see chapter "Order data for equipment, spare parts and accessories", page 41.)

The intensity can be reduced as follows:

Shutter	Nominal value of radiation intensity
without shutter	approx. 6000 – 10000 mW/cm ²
75 %	approx. 4500 – 7500 mW/cm ²
50 %	approx. 3000 – 5000 mW/cm ²
25 %	approx. 1500 – 2500 mW/cm ²
Nominal value between 320 – 390 nm as measured with Hönle UV-Meter directly at the light outlet of a light guide (Ø8mm length 1m).	

Fitting shutters



- Slide lamp unit out approx. 9 cm.
- Fully insert shutter in shutter holder from above.
The labelling on the shutter (e. g. 75 %) must point forwards.
- Slide lamp unit in fully again.

Electrical connection

Electrical connection



Danger

The device may only be connected up to correctly installed and earthed sockets.

- Plug the mains cable provided into the equipment's mains socket (1).
- Connect mains cable to earthed socket.



Note

Mains: 90 – 264 Volt
47 – 60 Hz
Load rating: min. 4 Ampere

Connecting up a foot-operated switch (Accessories)



Note

If you wish to operate the equipment with a foot-operated switch, we recommend that you use the foot-operated switch especially developed for the bluepoint. It is available as an accessory. (Art. No. 1866, see chapter "Order data for equipment, spare parts and accessories", page 41.)

- Connect foot-operated switch to 6-pin socket (9).
- Tighten the screw connection.



Note

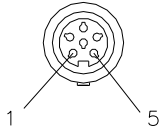
The shutter can only be opened after the warming-up period has elapsed (Status LED 14 lights up green).

Connecting up
a foot-operated
switch (Accessories)

External shutter-open signal – input

Alternatively, an external shutter-open signal can be connected up via the socket for the foot-operated switch (9). With this signal, the shutter is opened via an external make contact (shutter opens when contact is closed). The function is comparable to pressing the shutter-open key on the control panel.

The 6-pin plug available as an accessory should be used (Art. No. 1622, see chapter "Order data for equipment, spare parts and accessories", page 41.)

	
Assignment	Make contact between PIN 1 and 5
Contact rating	15VDC, 10mA
Cable length:	max. 5m

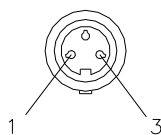
External
shutter-open
signal

3-pin socket alternating contact – output

The 3-pin socket (10) is equipped with a potential-free alternating contact, which can be used for connecting up external devices.

In ready for operation status, the contact is closed. In the event of lamp failure or other faults it will be open.

The equipment should be connected using the 3-pin plug provided in the delivery.

	
Assignment:	PIN 1 NC, PIN 2 COM, PIN 3 NO
Contact rating:	max. 250 V / 3 A

3-pin socket
alternating
contact

*Connecting
light guides*

Connecting light guides

- Remove protective caps from light guide.
 - Insert the notched end of the light guide into the light guide socket (21) until the light guide engages.
 - Place light guide in prescribed position.
 - Fix light guide in position with the setscrew (23).
-



Note

With multiple light guides, intensity alignment must be carried out.
(See chapter "Adjusting the lamp", page 38.)

Readiness for operation

The bluepoint 4 ecocure is ready for operation when the mains cable, the light guide and the foot-operated switch (optional) have been connected.

Readiness for operation

Basic functions

Basic functions

Basic procedure for entering or altering values

- Use arrow keys (17) to move cursor to desired parameter (e.g. TIME),
- Press Enter key (16) to access parameter,
- Use arrow keys (17) to alter value (e.g. 005.0 Sec).
 - ▲ ▼ Increase/decrease by one unit
 - ◀ ▶ Increase/decrease by one position
- Press Enter key (16) to store value.

Resetting the entry

Press the ▲ ▼ keys simultaneously to reset all digits to 0.



Note

If 30 seconds elapse without an entry being made, the value currently set is entered.

Switching on the equipment

Switching on the equipment



Note

The lamp cannot be switched off again during the warming-up period, as switching off a lamp before it is hot can damage the lamp and will reduce its service life.



Note

Avoid switching the lamp on and off unnecessarily! Each time the lamp is switched on or off, its service life is reduced. Only switch the lamp off if it is not needed for more than two hours.

Operation



Setting: Exposure time

Setting: Exposure time

The exposure time depends on

- the distance between the light guide and the object (the greater the distance, the lower the intensity and therefore the longer the exposure time required) and
- the type of adhesive used.



Caution

Exposing the object to radiation for too long can lead to damage to the object through overheating



Note

Observe the adhesive manufacturer's instructions!

The exposure time (shutter open time) can be set within a range between 0.1 and 999.9 seconds. A time setting of 000.0 seconds signifies continuous exposure – the shutter remains open.

Activity	Description	Display
Jump to parameter Time in the standard menu using the arrow keys (17) ▲▼.	Cursor  flashes at TIME.	Time: 004,0 sec. % 068 - - - - -
Press Enter key (16).	Cursor  flashes at Value:	Time: 004,0 sec. % 068 - - - - -
The exposure time in seconds can now be entered using the arrow keys (17) . e. g. 10.0 sec. ▲▼ Increase/Decrease by one unit ◀▶ Increase/Decrease by one position		Time: 010,0 Sek. % 068 - - - - -
	The time is stored	
Press Enter key (16).		Time: 010,0 Sek. % mW / cm² mJ / cm² 680 07200 072000

Setting:
Electrical power
output

Setting: Electrical power output

The bluepoint 4 ecocure works with an electronic ballast for setting the electrical power output of the lamp within a range of between 60 and 100%.

Activity	Description	Display																																																																
Jump to parameter % in the standard menu using the arrow keys (17) ▲▼, then press Enter key (16).	Cursor  flashes at power.	<table><tr><td></td><td>T</td><td>i</td><td>m</td><td>e</td><td>:</td><td></td><td>0</td><td>1</td><td>0</td><td>,</td><td>0</td><td>S</td><td>e</td><td>k</td><td>.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>%</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>0</td><td>6</td><td>0</td><td></td><td></td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>		T	i	m	e	:		0	1	0	,	0	S	e	k	.																		%															0	6	0					-	-	-	-		-	-	-	-
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The electrical power output can be adjusted using the arrow keys (17) ▲▼. Hold arrow key (17) in pressed down position, value is altered in increments, e.g. 80%.	Electr. power output is adjusted.	<table><tr><td></td><td>T</td><td>i</td><td>m</td><td>e</td><td>:</td><td></td><td>0</td><td>1</td><td>0</td><td>,</td><td>0</td><td>S</td><td>e</td><td>k</td><td>.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>%</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>0</td><td>7</td><td>5</td><td></td><td></td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>		T	i	m	e	:		0	1	0	,	0	S	e	k	.																		%															0	7	5					-	-	-	-		-	-	-	-
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Press Enter key (16).																																																																		

Note



The electrical power output of the ballast is not directly proportional to the intensity of the radiation emitted by the lamp. Thus, an adjustment range of 60 – 100% electrical power output does not mean 60 – 100% radiation discharge.

Note



Over the course of time, the lamp intensity relative to the electrical power consumption decreases. Begin with a low electrical power in order to be able to offset the lamp ageing process for as long as possible.

Triggering an exposure cycle with set time

In order to trigger an exposure cycle with a set time, an exposure time greater than 0 must be set (See chapter “Setting: Exposure time”, page 25). An exposure cycle can be triggered manually via the shutter key (19) on the front panel of the equipment or via the foot-operated switch.

Triggering an exposure cycle with set time



Danger

Observe the safety instructions “Danger caused by radiation”, page 12!

Activity	Description	Display																																																																																
Direct the end of the light guide at the object to be exposed. Press shutter key (19).	Shutter opens, object is exposed to radiation. The exposure time is counted down backwards	<table><tr><td></td><td></td><td>T</td><td>i</td><td>m</td><td>e</td><td>:</td><td></td><td>0</td><td>1</td><td>2</td><td>,</td><td>4</td><td>S</td><td>e</td><td>k</td><td>.</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>S</td><td>h</td><td>u</td><td>t</td><td>t</td><td>e</td><td>r</td><td>O</td><td>F</td><td>F</td><td>E</td><td>N</td><td>!</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>%</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>0</td><td>7</td><td>5</td><td></td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>			T	i	m	e	:		0	1	2	,	4	S	e	k	.										S	h	u	t	t	e	r	O	F	F	E	N	!							%																0	7	5				-	-	-	-	-				-	-	-	-	-
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	The shutter closes after the set exposure time.	<table><tr><td></td><td></td><td>T</td><td>i</td><td>m</td><td>e</td><td>:</td><td></td><td>0</td><td>1</td><td>2</td><td>,</td><td>4</td><td>S</td><td>e</td><td>k</td><td>.</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>%</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>0</td><td>7</td><td>5</td><td></td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>			T	i	m	e	:		0	1	2	,	4	S	e	k	.								%																0	7	5				-	-	-	-	-				-	-	-	-	-																					
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The exposure process can be interrupted by pressing the shutter key (19) again.

Activity	Description	Display																																																																												
Press shutter key (19).	Shutter opens, object is exposed to radiation. The exposure time is counted down backwards.	<table><tr><td></td><td></td><td>T</td><td>i</td><td>m</td><td>e</td><td>:</td><td></td><td>0</td><td>1</td><td>2</td><td>,</td><td>4</td><td>S</td><td>e</td><td>k</td><td>.</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>S</td><td>h</td><td>u</td><td>t</td><td>t</td><td>e</td><td>r</td><td>O</td><td>P</td><td>E</td><td>N</td><td>!</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>%</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>0</td><td>7</td><td>5</td><td></td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>			T	i	m	e	:		0	1	2	,	4	S	e	k	.										S	h	u	t	t	e	r	O	P	E	N	!							%															0	7	5				-	-	-	-	-			-	-	-	-
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Press shutter key (19) again while object is being exposed to radiation.	Shutter closes immediately	<table><tr><td></td><td></td><td>T</td><td>i</td><td>m</td><td>e</td><td>:</td><td></td><td>0</td><td>1</td><td>2</td><td>,</td><td>4</td><td>S</td><td>e</td><td>k</td><td>.</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>%</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>0</td><td>7</td><td>5</td><td></td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>			T	i	m	e	:		0	1	2	,	4	S	e	k	.								%														0	7	5				-	-	-	-	-			-	-	-	-																					
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Note

The shutter can only be opened if the lamp has ignited and is ready for operation (green status LED lights up) and if a light guide is plugged in.



Continuous exposure

It is possible to set the bluepoint 4 ecocure for continuous exposure. To do so, the exposure time must be set to 000.0, see chapter “Setting: Exposure time“, page 25.
If the shutter key (19) or the foot-operated switch is pressed after the shutter has opened, it will remain open until the shutter key (19) or the foot-operated switch is pressed again.

Activity	Description	Display
Set exposure time to 000.0, then press Enter key (16).		Time: 000,0 sec. % mW / cm2 mJ / cm2 075 08073 000000
Press shutter key (19).	Shutter opens, Object is exposed to radiation. Exposure time is counted forwards, the dose is calculated continually.	Time: 001,0 sec. % mW / cm2 mJ / cm2 075 08073 008073
Press shutter key (19)again, e.g. after 6 sec.	Shutter closes,, Exposure time are displayed	Time: 006,0 Sek. % 075 - - - - - - - - - -
Press any key.	Display reset to 0.	Time: 000,0 Sek. % 075 - - - - - - - - - -

Switching off lamp

Activity	Description	Display
Press lamp on/off key (11).	Lamp goes out; The cooling-down TIME of 60 seconds is counted down, Status LED (14) does not light up.	Time: 000,0 sec. cooling-down: 60 % 075 - - - - - - - - - -
		Time: 000,0 sec. % 075 - - - - - - - - - -



Note
The lamp cannot be ignited again during the cooling-down period.



Note
Avoid switching the lamp on or off unnecessarily! Each time the lamp is switched on or off, its service life is shortened. Only switch off the lamp if more than two hours will pass before it will be needed again.

Stand-by mode

Stand-by mode

If the lamp has been switched off and no entry is made within 5 minutes, the device automatically switches to stand-by mode. The display and the fan are switched off, the red stand-by LED (12) lights up.

Activity	Description	Display																																																																								
No entry for 5 minutes.		<table><tr><td></td><td></td><td>T</td><td>i</td><td>m</td><td>e</td><td>:</td><td></td><td>0</td><td>0</td><td>0</td><td>,</td><td>0</td><td></td><td>s</td><td>e</td><td>c</td><td>.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>%</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>0</td><td>7</td><td>5</td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>			T	i	m	e	:		0	0	0	,	0		s	e	c	.																					%																		0	7	5		-	-	-	-	-			-	-	-	-	-
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		%																																																																								
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	Red stand-by LED (12) flashes while equipment shuts down.	<table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>S</td><td>T</td><td>A</td><td>N</td><td>D</td><td>B</td><td>Y</td><td></td><td>-</td><td></td><td>M</td><td>O</td><td>D</td><td>E</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>*</td><td>*</td><td>*</td><td>*</td><td>*</td><td>*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>																					S	T	A	N	D	B	Y		-		M	O	D	E																							*	*	*	*	*	*										
		S	T	A	N	D	B	Y		-		M	O	D	E																																																											
		*	*	*	*	*	*																																																																			
	Red stand-by LED (12) lights up, display dark, ventilator off.																																																																									



Warning

The equipment is still supplied with mains current while in stand-by mode. Pull out the mains plug before opening the slide-in lamp unit.

Exiting stand-by mode

Exiting stand-by mode

The equipment can be switched back to active mode by pressing any key.

Activity	Description	Display																																																																												
Press any key.		<table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>S</td><td>T</td><td>A</td><td>N</td><td>D</td><td>B</td><td>Y</td><td></td><td>-</td><td></td><td>M</td><td>O</td><td>D</td><td>E</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>*</td><td>*</td><td>*</td><td>*</td><td>*</td><td>*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>																				S	T	A	N	D	B	Y		-		M	O	D	E																					*	*	*	*	*	*																	
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	Basic display	<table><tr><td></td><td></td><td></td><td>T</td><td>i</td><td>m</td><td>e</td><td>:</td><td></td><td>0</td><td>0</td><td>0</td><td>,</td><td>0</td><td></td><td>s</td><td>e</td><td>c</td><td>.</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>%</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>0</td><td>7</td><td>5</td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>				T	i	m	e	:		0	0	0	,	0		s	e	c	.																							%																			0	7	5		-	-	-	-	-			-	-	-	-	-
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To switch the device off completely, press the main switch on the back of the equipment.

Displaying operating hours

Activity	Description	Display																																																																													
Basic display		<table><tr><td></td><td></td><td>T</td><td>i</td><td>m</td><td>e</td><td>:</td><td></td><td>0</td><td>0</td><td>0</td><td>,</td><td>0</td><td></td><td>s</td><td>e</td><td>c</td><td>.</td><td></td></tr><tr><td></td><td></td><td>%</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>0</td><td>7</td><td>5</td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td></td><td></td></tr></table>			T	i	m	e	:		0	0	0	,	0		s	e	c	.				%																			0	7	5		-	-	-	-	-		-	-	-	-	-																						
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		0	7	5		-	-	-	-	-		-	-	-	-	-																																																															
Use arrow key (17) ▼ to move cursor down-wards.	Display jumps to the next section.																																																																														
	lamp: Shows the no. of lamp operating hours. device: Shows the total number of operating hours for the device. This value cannot be reset. ° C : Shows the current temperature inside the device in ° C.	<table><tr><td>O</td><td>p</td><td>e</td><td>r</td><td>a</td><td>t</td><td>i</td><td>n</td><td>g</td><td>-</td><td>h</td><td>o</td><td>u</td><td>r</td><td>s</td><td></td><td>T</td><td>e</td><td>m</td><td>p</td></tr><tr><td>l</td><td>a</td><td>m</td><td>p</td><td>:</td><td></td><td>d</td><td>e</td><td>v</td><td>i</td><td>c</td><td>e</td><td>:</td><td></td><td></td><td></td><td>°</td><td>C</td><td></td></tr><tr><td>0</td><td>0</td><td>0</td><td>3</td><td>1</td><td>h</td><td></td><td>0</td><td>0</td><td>0</td><td>3</td><td>1</td><td>h</td><td></td><td></td><td>4</td><td>1</td><td>.</td><td>0</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	O	p	e	r	a	t	i	n	g	-	h	o	u	r	s		T	e	m	p	l	a	m	p	:		d	e	v	i	c	e	:				°	C		0	0	0	3	1	h		0	0	0	3	1	h			4	1	.	0																			
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Note
Lamp operating hours should be reset to zero each time a lamp is replaced! See chapter “Resetting lamp operating hours”, page 37.

Menu: Settings

Menu: Settings

Basic procedure for entering or altering values

- Use arrow keys (17) to move cursor to desired parameter (e.g. TIME),
- Press Enter key (16) to access parameter,
- Use arrow keys (17) to alter value (e.g. 005.0 sec).
 - ▲ ▼ Increase/decrease by one unit
 - ◀ ▶ Increase/decrease by one position
- Press Enter key (16) to save value.

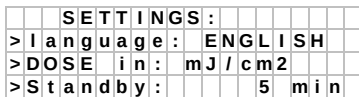
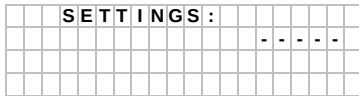
Resetting the entry to zero

Press the arrow keys (17) ▲ ▼ simultaneously to reset all digits to 0.



Note

If no entry is made for 30 seconds, the value currently set is saved.

Activity	Description	Display
From basic display: Press menu key (15) twice.	Display jumps to the next section	
Use arrow key (17) ▼ to move cursor downwards.	Display jumps to the next section..	
Use arrow key (17) ▼ to move cursor downwards.	Display jumps to the next section..	
Use arrow key (17) ▼ to move cursor downwards.	Display jumps to the next section..	

Language

Language

Here, the language can be selected.
There is a choice between:

- DEUTSCH
- ENGLISH
- FRANCAIS
- ITALIANO

Save
parameter

Save parameter

This function allows you to save entire parameter sets consisting of the settings (exposure time, electrical power output) under a name of your choice. These parameter sets can then be recalled at the press of a switch.

- There is storage space for a maximum of 6 parameter sets
- A name consisting of a maximum of 7 characters is assigned to the file.
- The file name is entered using the arrow keys (17).

Example	Display																																																																										
Select storage position using arrow key (17) and confirm by pressing the Enter key (16) .	<table><tr><td></td><td></td><td>s</td><td>a</td><td>v</td><td>e</td><td></td><td>p</td><td>a</td><td>r</td><td>a</td><td>m</td><td>e</td><td>t</td><td>e</td><td>r</td><td>s</td><td></td><td></td></tr><tr><td>1</td><td>:</td><td>H</td><td>O</td><td>E</td><td>N</td><td>L</td><td>E</td><td>1</td><td>4</td><td>:</td><td>*</td><td>T</td><td>E</td><td>S</td><td>T</td><td>*</td><td></td><td></td></tr><tr><td>2</td><td>:</td><td>P</td><td>R</td><td>O</td><td>D</td><td>.</td><td>4</td><td>5</td><td>:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>3</td><td>:</td><td>T</td><td>E</td><td>S</td><td>T</td><td>-</td><td>5</td><td>6</td><td>:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>			s	a	v	e		p	a	r	a	m	e	t	e	r	s			1	:	H	O	E	N	L	E	1	4	:	*	T	E	S	T	*			2	:	P	R	O	D	.	4	5	:									3	:	T	E	S	T	-	5	6	:								
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Load parameter

Load parameter

Here, the saved parameters can be called up.

Example	Display																																																																					
Select storage position using arrow key (17)and confirm by pressing the Enter key (16) .	<table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>:</td><td>H</td><td>O</td><td>E</td><td>N</td><td>L</td><td>E</td><td>1</td><td>4</td><td>:</td><td>*</td><td>T</td><td>E</td><td>S</td><td>T</td><td>*</td><td></td></tr><tr><td>2</td><td>:</td><td>P</td><td>R</td><td>O</td><td>D</td><td>.</td><td>4</td><td>5</td><td>:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>3</td><td>:</td><td>T</td><td>E</td><td>S</td><td>T</td><td>-</td><td>5</td><td>6</td><td>:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>																		1	:	H	O	E	N	L	E	1	4	:	*	T	E	S	T	*		2	:	P	R	O	D	.	4	5	:								3	:	T	E	S	T	-	5	6	:							
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Function of
* Key

Function of * Key

If the *-key (18) is pressed, the operating-hours for the device are displayed.

RS232
interface

RS232 interface

On the bluepoint 4 ecocure the RS232-interface is only used for software-update.

7 Servicing, maintenance and cleaning

General information

General
information

- Servicing, maintenance and cleaning work must be carried out by authorised personnel only.
- When carrying out servicing, maintenance and cleaning work, ensure that no fingerprints are left on the lamp, the filter and the ends of the light guides.
- Always work with a clean cloth or clean gloves.
- Only handle the UV lamp by its ceramic base.
- Where necessary, clean the lamp and the filter when they are cold, using a clean cloth and alcohol.



Note

Marks left on the UV lamp, the reflector or the ends of the light guides (e. g. fingerprints) will be burnt on when the lamp is put into operation and will reduce the service life and the performance of the UV lamp and the light transmission.

Maintenance

Maintenance

The following maintenance work must be carried out on the bluepoint 4 ecocure:

Every day:

Check the light guide for damage and soiling of the outlet window. Where necessary, these parts must be cleaned, see , chapter "Cleaning the light guide", page 39.

Danger

Before carrying out maintenance work, switch the equipment off and disconnect it from the mains. Danger of injury, possibly fatal!

Maintenance work must not be carried out while equipment is still warm.

After switching off, the bluepoint 4 ecocure must be left to cool down for at least 10 minutes with the ventilator running.

If the ventilator is switched off, it takes at least 30 minutes (at 20 °C ambient temperature) for the equipment to cool down.

Do not open the equipment during this cooling-off period. Acute danger of burns!



*Replacing the
UV lamp*

Replacing the UV lamp

The relative UV intensity of the lamp decreases the longer the lamp is in service.
If the required relative UV intensity does not suffice any longer, the lamp has to be replaced.



Note

A reduction in UV intensity means less efficient applications.



Warning

Use only original spare parts manufactured by the Dr. Hönle AG.
Safe operation of the bluepoint 4 ecocure cannot be guaranteed if parts from other manufacturers are used.



Note

To order spare parts, see chapter "Order data for equipment, spare parts and accessories", page 41.

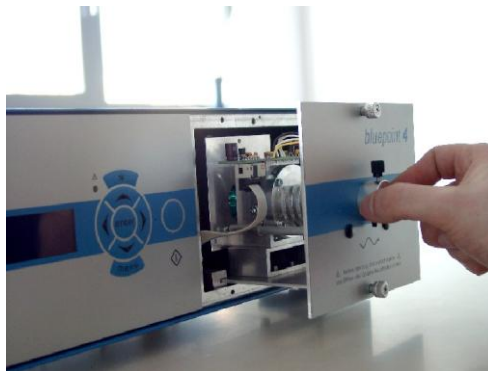
The lamp unit is pulled out to replace the UV lamp.

Danger

Before opening the equipment, switch it off and disconnect it from the mains.
Danger of injury, possibly fatal!



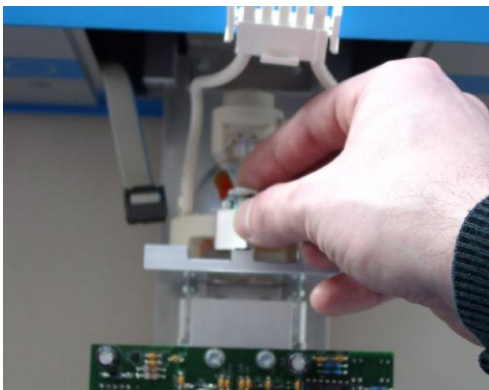
After switching off, the bluepoint 4 ecocure must be left to cool down for at least 10 minutes with the ventilator running.
If the ventilator is switched off, it takes at least 30 minutes (at 20 °C ambient temperature) for the equipment to cool down.
Do not open the equipment during this cooling-off period. Acute danger of burns!



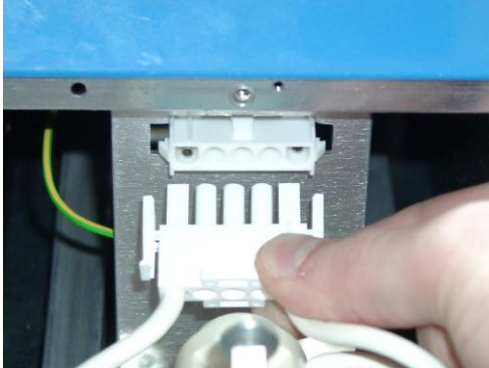
- Turn equipment off and disconnect from the mains.
- Wait at least 10 minutes for the device to cool down.
- Undo the screw connection of the slide-in lamp unit (20).
- Slowly pull out slide-in lamp unit approx. 9 cm.



- Detach ribbon cable.



- Slide lamp unit out fully.
- Undo knurled screw.
- Turn lamp clip 180°, engage it and secure with the knurled screw.



- Press lateral securing flaps against the 5-pin plug and pull the plug off towards the front.
- Remove old lamp in an upward direction.

Danger

The lamp contains mercury!

Mercury vapour will be emitted if the lamp breaks while it is hot or during operation.

In such an event, personnel must leave the room immediately and the room must be adequately ventilated.

Subsequently, a competent person must collect the mercury residue using a suitable binding agent and dispose of appropriately.

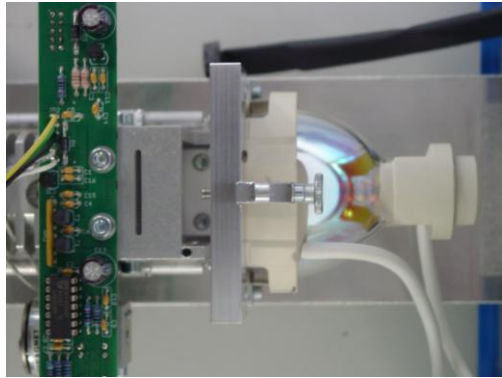
Binding agent: Powdered copper or zinc or Protectasan

Firma Frankenbach,

D-61462 Königstein / Taunus

Tel.: ++49 (0)6174 / 3993



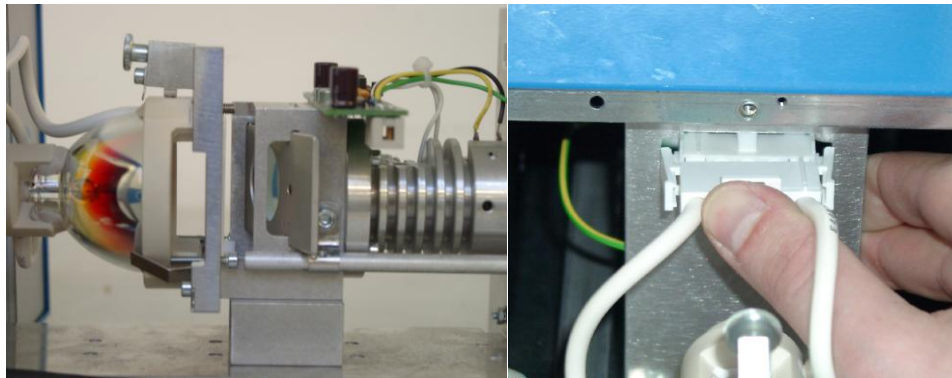


Fit new lamp from above as shown in the illustration.



Caution

- The upper positioning screw fits into the upper slot of the lamp socket
The reflector collar must rest on the 2 adjusting screws at the bottom.



- Turn lamp clip 180°, engage it and secure with the knurled screw.
- Insert 5-pole lamp plug until the side sections engage.



Note

The plug can only be inserted with the flat contact sides (see outside contacts) pointing upwards.

- Slide lamp unit in until it is extended approx. 9 cm.
- Plug in ribbon cable.
- Slide lamp unit in fully.
- Fully tighten the screw connection of the lamp unit (20) by hand.
- Reset lamp operating hours,
see chapter "Resetting lamp operating hours", page 37.



Note

In the case of multiple light guides, intensity alignment must be carried out. (See chapter "Adjusting the lamp", page 38.)

*The use of
multiple light
guides*

The use of multiple light guides

As a rule, the UV intensities emitted by the individual arms of the multiple light guides will vary. This is due to the individual radiation characteristics of the lamps and the geometry of the double light guides.



To compensate for this, the light guide can be turned in its holder.

If this is not sufficient, the lamp must be readjusted, see next chapter "Adjusting the lamp".

*Adjusting the
lamp*

Adjusting the lamp



Note

When using multiple light guides, the UV intensities must be adjusted after each lamp replacement.



Danger

Observe safety instructions in chapter "Danger caused by radiation", page 12!

- Remove the blind plug from the readjustment aperture (22).
- Plug in multiple light guide and secure with setscrew (23).
- Turn device on at main switch (2) and lamp on at "Lamp on/off" button (11).
- Set exposure time to max. 20 seconds.
- Wait for warming-up time to elapse.
- Insert first light guide arm into UV sensor.
- Open shutter with shutter key (19).
- Measure radiation intensity using UV meter.
- Measure radiation intensity of all light guide arms.
- Insert hexagon tool provided into an adjustment aperture (22).
- Carry out a quarter turn.
- The following adjustments are possible:
 - Right aperture: Turn clockwise to move radiation focus towards bottom right,
Turn anti-clockwise to move radiation focus towards top left,
 - Left aperture: Turn clockwise to move radiation focus towards bottom left,
Turn anti-clockwise to move radiation focus towards top right.

- Measure radiation intensity of each light guide arm.
- Continue readjustment depending on required degree of precision.
- Remove hexagon tool
- Replace blind plug in adjustment aperture (22).



Note

The UV intensities must be adjusted after each lamp or light guide replacement to ensure perfect alignment.

Cleaning

Cleaning



Note

Never use aggressive or abrasive cleaning agents.

Cleaning the light guide

Cleaning the light guide

The end of the light guide may become soiled if the equipment is operated in a dusty environment or because of adhesive fumes. This impairs the UV intensity.

- Clean the end of the light guide with a clean, lint-free cloth and alcohol or acetone.

Cleaning the surface of the equipment

Cleaning the surface of the equipment

Use only mild cleaning agents containing tensides (e.g. household cleaning agents), cleaning wipes or a damp sponge to clean the surface of the equipment. Never allow moisture to penetrate into the interior of the equipment.

Software updates via Internet

Software updates via Internet

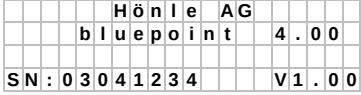
The bluepoint 4 ecocure is equipped with a FLASH program memory for the operating software. We recommend that you visit our homepage on the Internet at regular intervals to profit from future software improvements and upgrades. From our homepage, you can download the latest version of the operating software as required and update your bluepoint 4 ecocure software.

A software update takes about 10 minutes and can be carried out by the user without adjustments to the software and without additional hardware, on a PC with Windows interface.

Carrying out a software update

Carrying out a software update

- Turn the bluepoint 4 ecocure on at the main switch (2).

Description	Display
Shortly after the device is switched on, the current software version appears in the Start menu on the bottom right of the display.	

- Check on our Internet homepage, www.hoenle.de, whether a more recent version of the software is available.
- If so, download the update file.
- Open the file by doubleclicking on it.
- Switch the bluepoint 4 ecocure off.
- Connect the bluepoint 4 ecocure up to your PC using the 9-pin SUB-S cable provided. Use the COM1 port of your PC.

Activity	Description	Display
Turn the main switch (2) on the rear of the device back on while holding the * key (18) depressed.	The Display shows two bars.	
Keep the * key (18) pressed for a further 3 seconds.	The bluepoint 4 ecocure is in update mode.	

- Follow the instructions given in the update program on the PC.
- Wait until the update program has been completed.
- Using the main switch (2), switch the bluepoint 4 ecocure off and then on again. The update is complete.

Should a fault message be issued, repeat the process.

If a fault message is issued again, please contact the customer service department.

Note



Please observe the additional instructions on software updates given on our homepage. You will also find a list of all software updates and upgrades there.

Note



If you do not wish to carry out the software update yourself, please feel free to contact our customer service department (see chapter "Warning", page 42 and chapter "Faults", page 2.)

8 Order data for equipment, spare parts and accessories

Ordering

Ordering

Spare parts can be ordered from our spare parts service under the following address:

Dr. Höhle AG
UV-Technologie
Lochhamer Schlag 1
D-82166 Gräfelfing / München

Tel.: +49 (0)89 / 856 08-0
Fax: +49 (0)89 / 856 08-148

Equipment

Equipment

Description	Article / Order number
bluepoint 4 without light guide	31400
bluepoint 4 ds without light guide	31700
bluepoint 4 UVC without light guide	31500
bluepoint 4 ecocure without light guide	33150

Spare parts/Accessories

Spare parts/ Accessories

Description	Article / Order number
Light guide ø 8 mm / Length 1000 mm	1620
Light guide ø 8 mm / Length 1500 mm	0042
Light guide ø 5 mm / Length 1000 mm	8394
Light guide ø 5 mm / Length 1500 mm	0493
Further light guide lengths and light guide diameters	available on request
Multiple light guide	available on request
Foot-operated switch	1866
Spare lamp bluepoint 4	32427
Spare lamp bluepoint 4 uvc	32428
Fuse 5 x 20 mm 6.3 A inert (2x)	0545
6-pin diode plug for external input	1622
Shutter set bluepoint 4	36965
Filter 320-500nm bluepoint 4	32203
Filter 320 – 390nm bluepoint 4	32204
Filter 390- 500nm bluepoint 4	36478
Protective goggles, tinted	0067
Protective goggles, clear glass	0068
Protective gloves	19754
User's manual (German/English)	33812



Warning

Use only original spare parts manufactured by the Dr. Höhle AG.
Safe operation of the bluepoint 4 ecocure cannot be guaranteed if
spare parts from other manufacturers are used.

9 Warning

General information

General information

The operating status Warning indicates that the device is not fully ready for operation or that there is a problem that needs to be remedied.

Warnings are displayed by means of the orange/red flashing LED.

The following list contains all warning messages generated by the bluepoint 4 ecocure, their causes and how to remedy the problem.

In the unlikely event of a warning message being generated where the problem cannot be remedied by following these instructions, please contact the customer service department of the Dr. Hönle AG.

Contact address:

Dr. Hönle AG
UV-Technologie
Lochhamer Schlag 1
D-82166 Gräfelfing / München

Tel.: +49 (0)89 / 856 08-0

Fax: +49 (0)89 / 856 08-148

Warning	Display	Cause	Remedial action
Light guide Shutter will not open.	Time: 000,0 sec. Light guide ??? % 080 - - - - -	Light guide not inserted properly.	Insert light guide fully.
Temperature: Overheating if temperature continues to increase	Time: 000,0 sec. ! TEMPERATURWARNING !! % 080 - - - - -	Temperature in device very high.	Clear ingoing and outgoing air apertures. Check filter mat.



Note

A warning does not necessarily mean that the lamp is switched off. It may be possible to carry on work – with some restrictions.

10 Faults

General information

General
information

The fault mode indicates that the device is **not** ready for operation or that servicing work is due.
Faults are displayed via the red flashing status LED and via the potential-free adapter contact.

If possible, create a Device Report before doing so - see chapter "**Fehler! Verweisquelle konnte nicht gefunden werden.**", page **Fehler! Textmarke nicht definiert.**

Contact address:

Should faults occur during operation of the Sujet4, obey the following instructions to locate the cause of the fault. Tips will also be given on how to remedy the fault.

Dr. Hönle AG
UV-Technologie
Lochhamer Schlag 1
D-82166 Gräfelfing / München

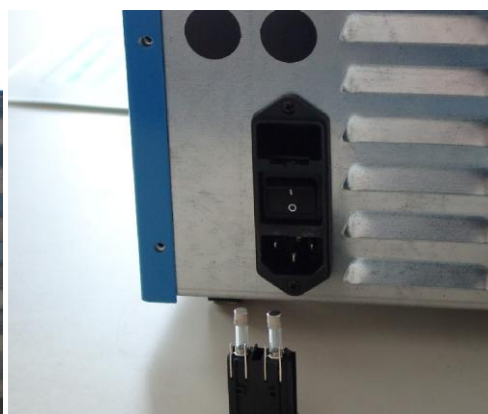
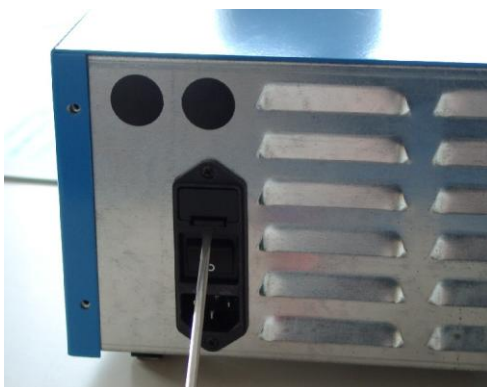
If a fault occurs on your equipment and cannot be remedied by following these instructions, please contact the customer service department of the Dr. Hönle AG.

Tel.: +49 (0)89 / 856 08-0
Fax: +49 (0)89 / 856 08-148

No function

No function

Warning	Display	Cause	Remedial action
Display dark, fan not working.		Device on stand-by, stand-by LED lit	Press any key.
		Device not connected to mains.	Check main switch, mains cable, mains fuse, equipment fuse (see illustration below).



Warning	Display	Cause	Remedial action
Overheating Lamp goes out.	Time: 000,0 sec. !! TEMPERATURE ERROR !! % 080 - - - - - - - - - -	Temperature inside device too high.	Clear ingoing and outgoing air apertures. clean or replace air filter, see chapter „Replacing the air filter“, page 37. check that fan is functioning correctly. Wait until equipment has cooled down again.
Shutter fault Lamp goes out.	Time: 000,0 sec. !! SHUTTER - ERROR !! % 080 - - - - - - - - - -	Shutter jammed.	Slide lamp unit out. Shutter must not catch anywhere. If necessary, readjust.
		Shutter defective.	Customer service
Lamp fault	Time: 000,0 sec. !! LAMP - ERROR !! % 080 - - - - - - - - - -	Lamp does not ignite.	Wait until lamp has cooled down and ignite again.
		Lamp not fitted correctly or defective	Replace lamp, see chapter “Replacing the UV lamp“, page 34.
		EVG defective.	Customer service

11 Technical data

Measurements and weight

Measurements
and weight

	Width [mm]	Depth [mm]	Height [mm]	Weight [kg]
Operating unit	450	300	150	10

Electrical data

Electrical data

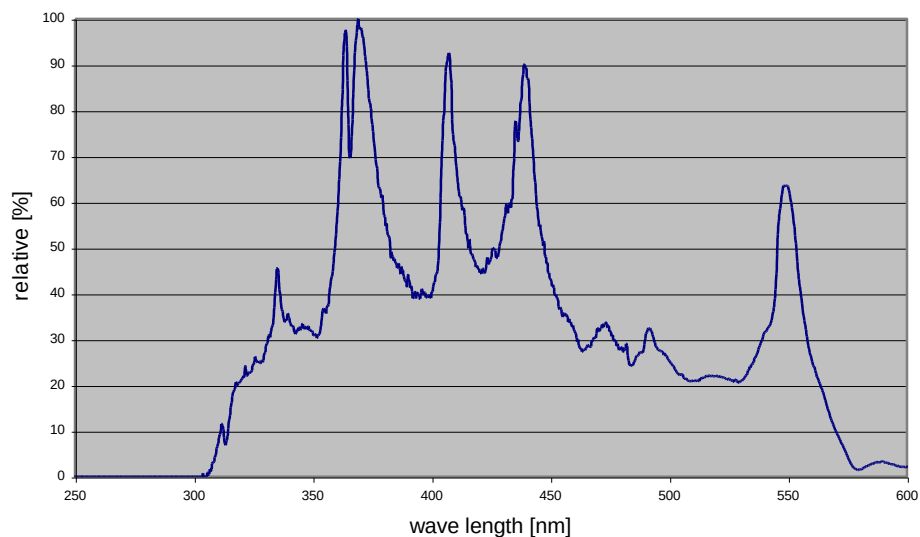
Input voltage range	90 – 264 V
Frequency range	47 – 60 Hz
Feed current	Max. 3,2 A
Fuse (Fine-wire fuse, 5 x 20 mm)	2 x 4,0 A (inert)

UV spectrum

UV spectrum

The following diagrams show the radiation spectra emitted by the UV lamp.

Spektrum bluepoint 4 ecocure



Radiation technology

Radiation
technology

Nominal value of the UVA radiation intensity of 330 – 400nm measured directly at the emitting surface of the light guide:	
- 8 mm diameter, 1 m length (extended)	10,000 mW/cm ²
- 5 mm diameter, 1 m length (extended)	10,000 mW/cm ²